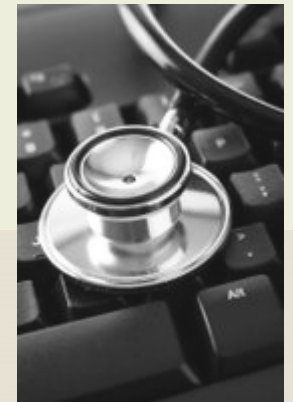


The Use of Electronic Medical Records and Physicians' Attitudes toward a Health Information Exchange

August 2008: Third Interim Report

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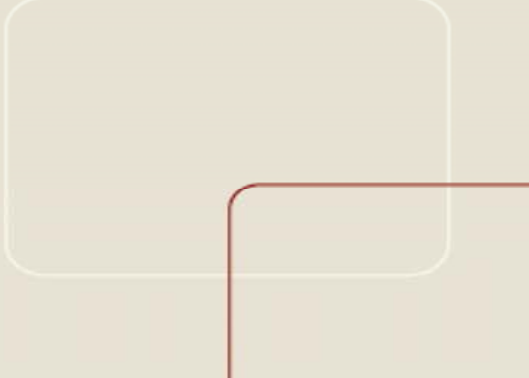


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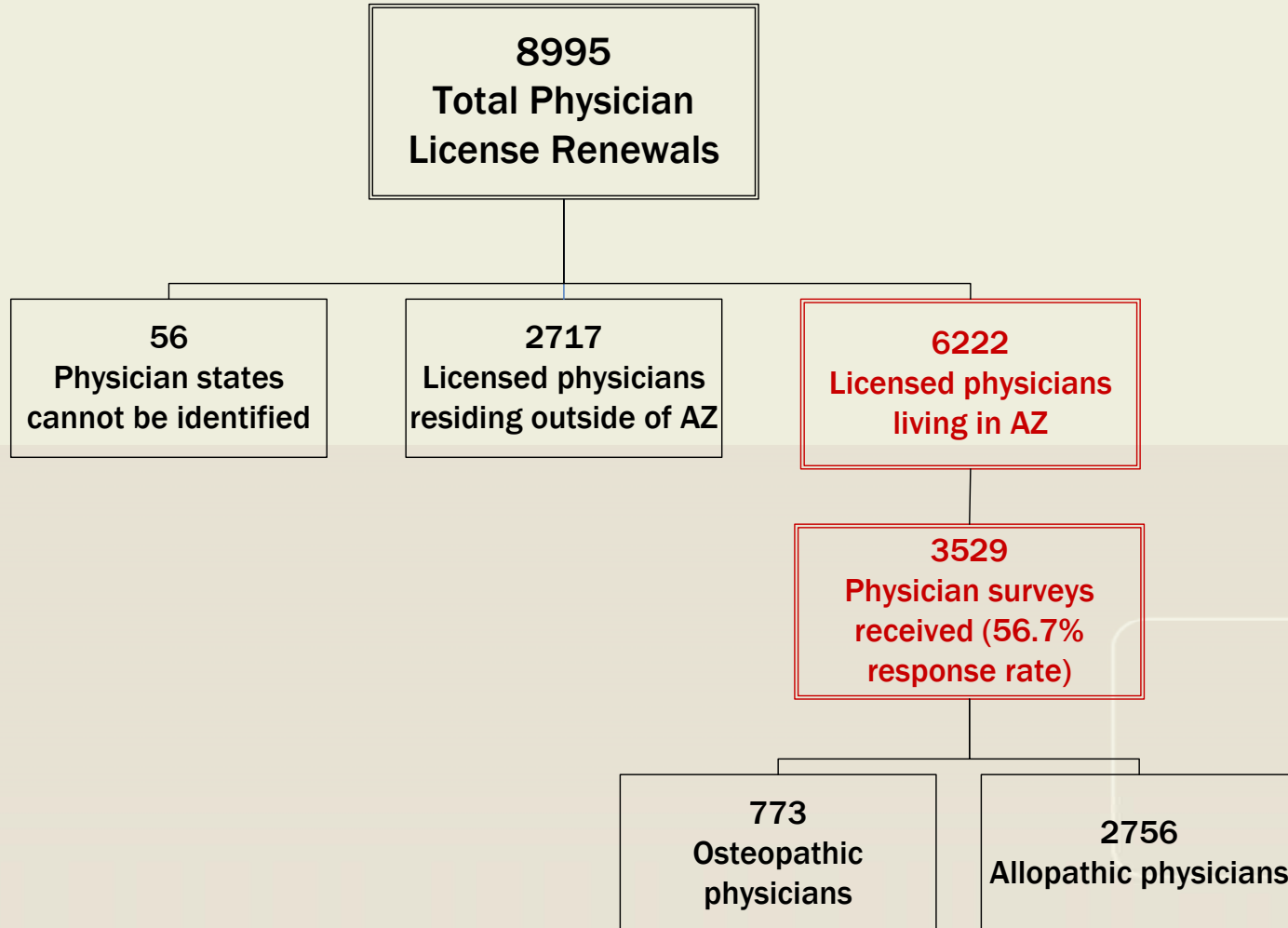
Highlights

- 44% of physicians use some form of EMR.
 - Use of EMRs ranges from 68% in government organizations to 25% among solo practitioners.
 - Only a little more than half (55%) of EMR users exchange information with other health related organizations.
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Methodology

- Survey questions added to license renewal applications
- Survey responses merged with licensing data to create individual physician records
- Complete renewal cycle for osteopathic physicians plus approximately one-half of allopathic physicians (7/1707-5/31/08)
- Respondents are similar to non-respondents in terms of age, gender, location, primary care and specialty care

Data Collection July 17, 2007 – May 31, 2008



Methods of Storing Medical Records (N= 3,151)

<i>Variable</i>	<i>Number Yes</i>	<i>% of total</i>
Paper Files Only	1,491	47.3%
EMR Only	387	12.3%
Scanned Images Only	97	3.1%
EMR + Paper Only	250	7.9%
Paper + Scanned Images Only	168	5.3%
EMR + Scanned Images Only	359	11.4%
Paper + Scanned Images + EMR	399	12.7%
<i>EMR alone or in combination*</i>	<i>1,395</i>	<i>44.3%</i>

Paper files remain the dominant form of medical records

Source: AMB, ABOE Survey Data, July 17, 2007 - May 30, 2008.

Note: 235 respondents did not identify a method of storing medical records (missing).

*Data on "EMR alone or in combination" is not mutually exclusive from other categories.

Methods of Transmitting Medical Records (N=1,395)

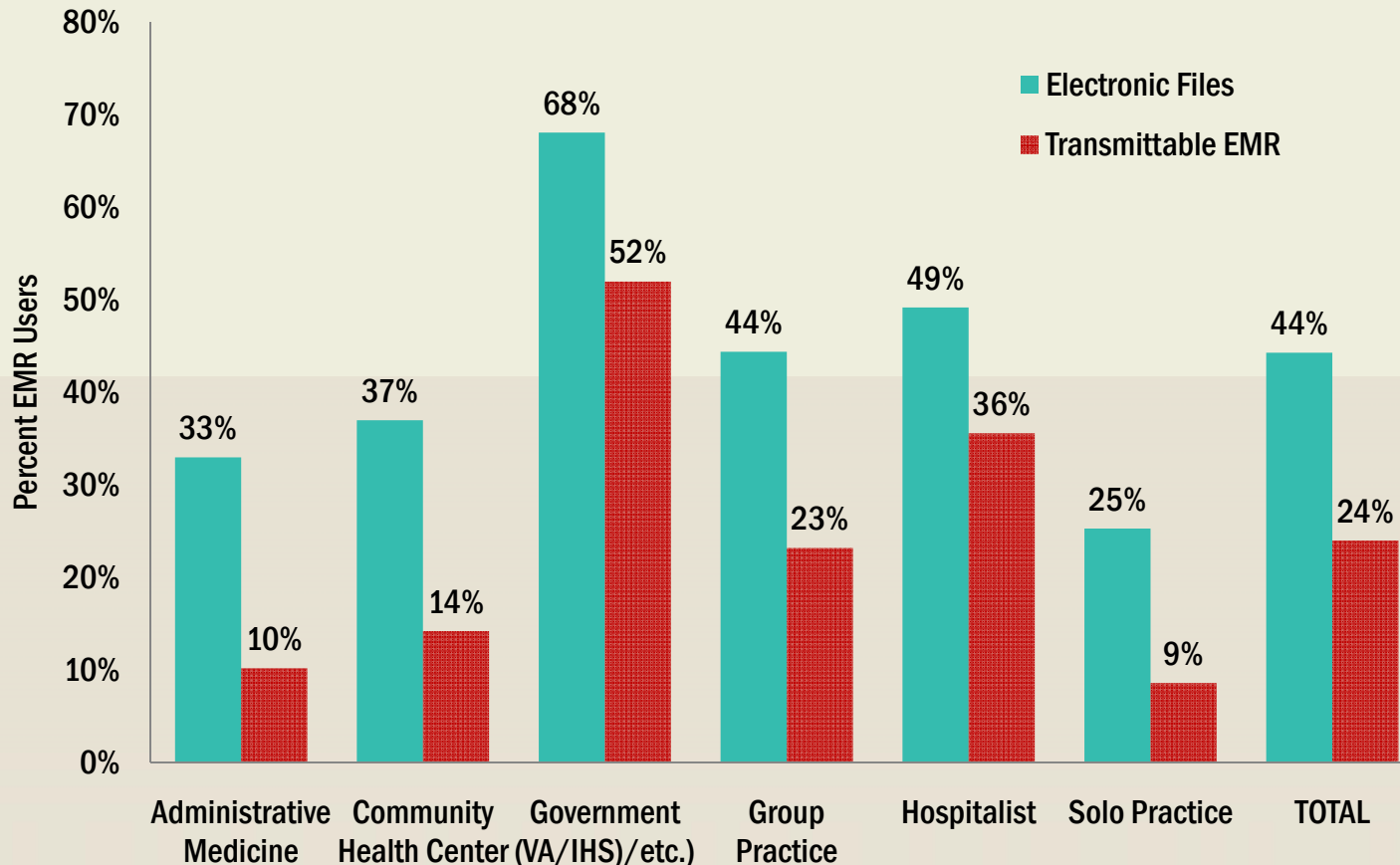
<i>Variable</i>	<i>N</i>	<i>% of Connected EMR Users</i>	<i>% of EMR Users</i>	<i>% of All Eligible Physicians</i>
Electronic File	1,395	-	100.0%	44.3%
Connected EMR System	761	100.0%	54.6%	24.2%
EMR System Connected to Hospital*	534	70.2%	38.3%	16.9%
EMR System Connected to Pharmacy*	413	54.3%	29.6%	13.1%
EMR System Connected to Lab*	569	74.8%	40.8%	18.1%
EMR System Connected to Radiology*	445	58.5%	31.9%	14.1%
“Fully Functional” EMR*	320	42.0%	22.3%	10.2%

**55% of
 EMR users
 are
 connected
 to other
 parts of the
 health care
 system**

Source: AMB, ABOE Survey Data, July 17, 2007 - May 30, 2008.

Note: *These percentages are not mutually exclusive. A “fully functional” EMR is one that can exchange information with each of these segments of the health care system: pharmacy, lab and radiology.

Distribution of Users and Non-Users of EMRs by Type of Practice: Arizona Physicians



EMR use is highest in government settings, followed by hospitalists

Source: AMB, ABOE Survey Data, July 17, 2007 - May 30, 2008.

Note: 15 physicians with EMRs did not specify a type of practice, but are included in the total for consistency.

Physician Characteristics Associated with EMR Use

- **Age** is one of the critical variables in determining the likelihood of EMR use.
 - The odds that a physician will use an EMR consistently and significantly increases as one moves from age 65+ to each of the younger age categories.
 - One can speculate that differences in culture, facility with computerized applications, and training experiences follow a similar distribution among ages.
 - The development of strategies for the promulgation of EMRs is, however, better served by investigation than speculation and we shall pursue the topic further as this project progresses.

Physician Characteristics Associated with EMR Use

(cont.)

- Physicians in **government settings** are , all else equal, significantly more likely to utilize EMR than physicians in group practice, solo practice, and community health centers.
- **Female** physicians are less likely than males to utilize an EMR (although they are not less likely exchange information if they use an EMR).
- **DOs** with EMRS are more likely than MDs with EMRs to utilize a connected EMR.
- Little difference among Maricopa, Pima and more rural **counties**

Who is the Decision Maker?

<i>Decision maker for purchase of EMR system</i>	<i>Number of EMR Users</i>	<i>% of EMR Users</i>	<i>Number of non-EMR Users</i>	<i>% of non-EMR Users</i>
Respondent was/would be decision maker	148	12.8%	421	27.3%
Shared decision	213	18.4%	452	29.3%
Decided by others	795	68.8%	668	43.4%
Total	1,156	100%	1,541	100%

Source: AMB, ABOE Survey Data, July 17, 2007 - May 30, 2008.

Note: There were 239 missing responses among EMR users and 215 missing responses among non-users.

Who would you trust to manage an HIE? (N=600)

<i>Rank</i>	<i>Type of Organization</i>	<i>Percent</i>
1	hospital system	43.2%
2	commercial vendor	38.2%
3	regional health information organization	34.6%
4	state of Arizona (AHCCCS)	32.8%
5	other	16.8%
6	health insurer/managed care plan	13.5%

Source: AMB, ABOE Survey Data, July 17, 2007 - May 30, 2008.

Note: 89 of the 600 physicians without EMRs did not answer this question (missing). To have their responses included in this question, physicians must be non-EMR users and said they would “consider an internet-based system rather than one where the records are stored in your office PC or server.” Percentages reflect non-missing responses only.

Summary of Results

- Paper records remain the dominant form in which medical records are stored, whether as the sole medium of storage or in combination with EMRs or scanned files.
- Approximately 44% of physicians surveyed use some form of an EMR in their practice.
- EMR use is most prevalent in government practice settings and least prevalent in private solo practices.
- The probability of EMR use, controlling for all other influences, is significantly related to physician age. The probability of use declines as physicians' ages increase.

Summary (cont.)

- There is little difference in the prevalence of EMR use between the two most urban counties and other parts of Arizona.
- The adoption of EMRs is not synonymous with the exchange of information among health care organizations.
- Physicians who use EMRs place a higher value on them than do physicians who have yet to adopt EMRs.

Conclusion

- Percentage of physicians with EMRs is higher than national studies suggest
- Creation of target group requires distinguishing between users and decision makers
- Use of EMRs is generally limited to intra-office use with little exchange capability
- Use of EMRs is much higher the larger the organization
- Use of EMRs is inversely related to age
- Variance among counties is very large with some rural counties having utilization rates nearly as high as Maricopa and Pima
- Acceptance of concept of an HIE with a state government home is